

AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
ONE NATIONAL LIFE DRIVE, MAIN BUILDING, 2ND FLOOR
MONTPELIER, VT 05620-3522

FACT SHEET
(MARCH 2016)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

PERMIT NO: 3-1504
PIN: RU96-0131
NPDES NO: VT0001147

NAME AND ADDRESS OF APPLICANT:

Town of Bennington
P.O. Box 469
Bennington, VT 05201

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Bennington Water Treatment Facility
1378 Route 9 East
Woodford, Vermont

RECEIVING WATER: Roaring Branch of the Walloomsac River

CLASSIFICATION: Class B. Class B waters are suitable for swimming and other forms of water-based recreation, and irrigation of crops and other agricultural uses without treatment; good aesthetic value; aquatic biota and wildlife sustained by high quality aquatic habitat; suitable for boating, fishing, and other recreational uses; acceptable for public water supply with filtration and disinfection.

I. Proposed Action, Type of Facility, and Discharge Location

The Vermont Agency of Natural Resources (Agency) received a renewal application for the permit to discharge into the designated receiving water from the above-named applicant on September 3, 2013. The facility is engaged in the treatment of drinking water; the wastewater generated from this process is discharged after treatment from two outfalls (S/N 001 and S/N 002) to the Roaring Brook of the Walloomsac River. At this time the Agency has made a tentative decision to reissue the discharge permit.

II. Description of Discharge

This permit authorizes the discharge of process wastewater produced during the treatment of raw surface water into potable water. A quantitative description of the discharge in terms of

significant effluent parameters is based on state and federal laws and regulations, the discharge permit application, and the recent self-monitoring data.

III. Limitations and Conditions

The effluent limitations of the permit, the monitoring requirements, and any implementation schedule (if required), may be found on the following pages of the permit:

Effluent Limitations:	Page 2 and 3
Monitoring Requirements:	Pages 2 and 3

IV. Permit Basis and Explanation of Effluent Limitation Derivation

History and Summary:

The Town of Bennington owns and operates the Bennington Water Treatment Facility. The original facility was constructed in 1977, and upgraded in 2006, to process surface water to potable drinking water for the Town of Bennington.

Potable Water Flow: Raw water is drawn from Bolles Brook and passes through three screens before flowing to the Raw Water Storage Tank. As the raw water travels from the Raw Water Storage Tank into the facility, it is monitored for pH, turbidity and temperature. In the facility, raw water is injected with a polymer, passes through filter units where the coagulated particles are removed; the filtered water enters the In-Plant Clearwater Tank. The filtered water flows by gravity from the In-Plant Clearwater Tank to the pump station Filtered Water Cell (Cell #1). The filtered water is mixed with lime and CO₂ for pH adjustment as it is pumped in the pump station Treated Water Cell (Cell #2). The treated water is then pumped to the 1.2 Million Gallon Clearwell; as it is pumped to the Clearwell, the treated water is metered and injected with sodium hypochlorite for disinfection. The water in the 1.2 Million Gallon Clearwell is then available for distribution.

Process Wastewater Flow: Filtered water in the In-Plant Clearwater Tank is used to backwash the filters; the filter backwash water is collected in the In-Plant Wastewater Basin. The In-Plant Wastewater Basin consists of three serial settling chambers: each chamber has an opening at the top of the furthest point, allowing the supernatant to move into the next chamber, while the solids settle. In the third and final chamber, two pumps alternate to pump supernatant to the Sludge Thickener Tank, maintaining the volume of the Wastewater Basin below a standing overflow pipe. Additionally, two sludge pumps draw sludge out of the bottom of the In-Plant Wastewater Basin; sludge is pumped to the Sludge Thickener Tank on a weekly basis. The Sludge Thickener Tank is dumped onto a Sand Filter Drying Bed every one to two years. The solids are transported to a licensed landfill for disposal.

Floor Drains: The floor drains in the Pump Station discharge to a cast-in-place concrete tank located to the west of the pump station. The holding tank has a level sensor and alarm system to identify when the volume reaches a high level. The signal is connected to the SCADA system. The discharge from these floor drains will be trucked to the Town's

wastewater treatment facility as necessary. One of the floor drains in the building has been connected to the septic system for discharges from the sink and emergency eyewash.

Flow –

S/N 001: This discharge occurs in three situations: **1)** In-Plant Clearwater Tank is drained for cleaning and/or inspection purposes; **2)** emergency overflow from the In-Plant Clearwater Tank; and **3)** emergency overflow from the pump station Treated Water Cell (Cell #2). Sodium hypochlorite addition only occurs with the pumps are running to fill the 1.2 Million Gallon Clearwell.

No discharge shall violate any of the permit conditions and the Vermont Water Quality Standards. The effluent from the In-Plant Clearwater Tank shall be monitored daily, when flowing, either directly from the Clearwater Tank or at the overflow point at DMH 7. Effluent from Cell #2 shall be monitored daily, when flowing, at Manhole DMH 9.

The effluent flow limitation for S/N 001 remains 42,000 gallons per day, monthly average, and a daily maximum of 84,000 gallons.

S/N 002: This discharge is comprised of overflow from a standing pipe at the top portion of the Sludge Thickener Tank and effluent from the Sand Filter Drying Bed. Emergency overflows from the In-Plant Wastewater Basin (when the level of the wastewater reaches the standing overflow pipe) discharges to S/N 002. Emergency overflows from the 1.2 Million Gallon Clearwell overflows to daylight by way of a concrete splash pad, running approximately 30 feet to CB 9 to tie into S/N 002. All exterior storm basins and footing drains are tied into S/N 002.

No discharge shall violate any of the permit conditions and the Vermont Water Quality Standards. The effluent from the Sludge Thickening Tank shall be monitored daily via a sample tap on the north wall of the treatment facility building (that pumps from the metering pit). The effluent from the Sand Filter Drying Bed discharge shall be monitored daily, when flowing, at Manhole DMH 13 located immediately adjacent to the drying bed. The emergency overflow from the Wastewater Basin shall be monitored daily, when flowing, at a location which is representative of the effluent discharged.

The effluent flow limitation for S/N 002 remains at 0.350 million gallons per day, monthly average, and a daily maximum of 0.650 million gallons.

A note shall be made on the DMR WR-43 when there is a discharge from an emergency overflow. The note shall identify the specific source of the emergency discharge.

Turbidity – The limitation of 10 NTU and daily monitoring remain unchanged from the current permit. This limit is based on Section 3-04.B of the Vermont Water Quality Standards.

Total Residual Chlorine – A limit of 0.1 mg/L is required when an emergency discharge from the 1.2 Million Gallon Clearwell occurs. The dechlorination agent, sodium bisulfite, will be injected to Manhole DMH 5 if an overflow occurs. The mechanism to detect an overflow includes a pressure sensor that detects tank level. When a pressure sensor located in the Clearwell indicates

an overflow, the SCADA system will activate the dechlorination pump. Monitoring is required daily during an emergency overflow.

pH – The pH limitation remains 6.5-8.5 Standard Units as specified in Section 3-01.B.9 in the Vermont Water Quality Standards. However, the intake water from Bolles Brook (Class A) is significantly lower than the pH range in the WQS. As a result, the permit allows the discharge to the Roaring Branch of the Walloomsac River to be up to 0.2 S.U.s less than the intake water pH (note, Bolles Brook enters the Roaring Branch about 1500 feet upstream of the discharge points). Monitoring for both S/N 001 and S/N 002 is required daily.

V. Procedures for Formulation of Final Determinations

*The public comment period for receiving comments on the draft permit was from **February 22, 2016 through March 23, 2016**. No comments were received.*